BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Diploma in Engineering Pearson BTEC International Level 3 Diploma in Manufacturing Engineering Pearson BTEC International Level 3 Extended Diploma in Engineering Pearson BTEC International Level 3 Extended Diploma in Manufacturing Engineering
Unit number and title	**Unit 39: Modern Manufacturing Systems**
Learning aim(s)	**B:** Examine process systems that are commonly used in manufacturing industry
Assignment title	Investigating manufacturing processes and procedures
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have been working for a large engineering company as an engineering apprentice for four years. Two months ago your company bought and took over one of its smaller rivals and you have been asked to form part of the technical team that will visit their factory to assess the effectiveness and efficiency of their manufacturing processes. Your supervisor has assigned you to investigate how **two** specific but contrasting products are manufactured. He has asked you to report on the processes, layouts and documentation used for each product, suggesting potential improvements where possible. Your findings are to be presented in an illustrated written report.

Task 1	Provide a short description of each contrasting product. Your written report should then provide detailed information on: ● the principles and characteristics of the different manufacturing process types (for example, jobbing, batch, mass) and manufacturing layout types (for example, fixed, process, cellular) chosen for each product ● the arrangement of manufacturing resources and how each product moves through them ● how the a) characteristics of the product; b) volume to be made; c) complexity of processes required; and d) other products being produced at the same time influenced the manufacturing process type and manufacturing layout type chosen for each product ● the importance of different types of documentation used to coordinate manufacture for each product (such as material lists, stores requisitions, visual aids etc), commenting on what the documentation is used to communicate and to whom, when and how it is issued and the activities that are triggered,

	coordinated and managed ● how the type, complexity and use of the documentation employed for each product was influenced by the manufacturing process types/manufacturing layout types chosen and the complexity of each product ● why the manufacturing process types and manufacturing layout types chosen are justifiable for each product and any potential improvements that could be made to make them more effective ● the advantages and disadvantages of the documentation system employed to coordinate manufacture for each product, referring to any possible alternatives that could improve efficiency, reliability and speed of manufacture.
Checklist of evidence required	A written report containing the information above, that should include diagrams and photographs were applicable
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
39/B.P2	Explain, using contrasting product examples, the principles and characteristics of different manufacturing process types.
39/B.P3	Explain, using contrasting product examples, the principles and characteristics of different manufacturing layout types.
39/B.P4	Explain, using contrasting product examples, the importance and use of manufacturing documentation.
39/B.M2	Analyse, using contrasting product examples, the selection of manufacturing process types, layout types and documentation used.
39/B.D2	Evaluate, using contrasting product examples, the selection of manufacturing process types, layouts and documentation used, suggesting improvements where appropriate.
Sources of information to support you with this Assignment	**Books** Slack, Nigel, Alistair Brandon-Jones, and Robert Johnston. 2012. Operations Management. 7th ed. Harlow: Financial Times Prentice Hall. ISBN 9780273776208 Groover, Mikell P. 2012. Fundamentals Of Modern Manufacturing. 5th ed. Hoboken, NJ: John Wiley & Sons, Inc. ISBN 9781118231463 **Websites** Inman, R, A. 2007. Layout. [Online]. Available from: referenceforbusiness.com/management/Int-Loc/Layout.html Siemens. 2016. Manufacturing work instructions. [Online]. Available from: plm.automation.siemens.com/en_us/products/tecnomatix/manufacturing-planning/work-instructions/ Above are some examples of websites. Further useful resources may be found at qualifications.pearson.com/en/support/published-resources.html#step1

Other assessment materials attached to this Assignment Brief	The information required to complete this assignment will be gathered during a visit(s) to a local industrial partner/will be gathered during work experience with a local industrial partner/was developed in conjunction with a local industrial partner and is available in the attached case study material <delete as appropriate>.